

Listing of the Claims

1. (Original) A method for manufacturing a thin film, comprising the step of applying a force, with a part having a sharp tip, onto an entire area or arbitrary region of a film during or after formation of the film, so as to control a structure of the film.

2. (Original) A method for manufacturing a thin film, comprising the step of applying a force, with a part having a sharp tip, onto an entire area or arbitrary region of a film during or after formation of the film, with a temperature of the film maintained at or above a glass transition temperature of a amorphous region, so as to control a structure of the film.

3. (Previously Presented) A method as set forth in claim 1, wherein the force applied on the film derives from only the part having a sharp tip.

4. (Previously Presented) A method as set forth in claim 2, wherein the force applied on the film derives from only the part having a sharp tip.

5. (Previously Presented) A method as set forth in claim 1, wherein the force applied on the film derives from the part having a sharp tip, and at least one of an electric force generated by application of an electric field and a magnetic force generated by application of a magnetic field.

6. (Previously Presented) A method as set forth in claim 2, wherein the force applied on the film derives from the part having a sharp tip, and at least one of an electric force generated by application of an electric field and a magnetic force generated by application of a magnetic field.

7. (Previously Presented) A method as set forth in claim 1, wherein the thin film is formed on a substrate.

8. (Previously Presented) A method as set forth in claim 2, wherein the thin film is formed on a substrate.

9. (Previously Presented) A method as set forth in claim 1, wherein the part having a sharp tip is an atomic force microscope.

10. (Previously Presented) A method as set forth in claim 2, wherein the part having a sharp tip is an atomic force microscope.

11. (Previously Presented) A method as set forth in claim 1, wherein plural areas of the film are simultaneously processed with plural parts having sharp tips.

12. (Previously Presented) A method as set forth in claim 2, wherein plural areas of the film are simultaneously processed with plural parts having sharp tips.

13. (Previously Presented) A method as set forth in claim 1, wherein the structure of the film is controlled by controlling (i) a crystalline structure of crystals constituting the film, (ii) an orientation direction of crystals constituting the film, (iii) an orientation direction of molecules in the crystals, or (iv) any combination of (i) through (iii).

14. (Previously Presented) A method as set forth in claim 2, wherein the structure of the film is controlled by controlling (i) a crystalline structure of crystals constituting the film, (ii) an orientation direction of crystals constituting the film, (iii) an orientation direction of molecules in the crystals, or (iv) any combination of (i) through (iii).

15. (Previously Presented) A method as set forth in claim 1, wherein the structure of the film is controlled by scanning a film surface with the part having a sharp tip.

16. (Previously Presented) A method as set forth in claim 2, wherein the structure of the film is controlled by scanning a film surface with the part having a sharp tip.

17. (Previously Presented) A method as set forth in claim ~~2~~1, wherein the film is made of an organic polymer material.

18. (Previously Presented) A method as set forth in claim 2, wherein the structure of the film is controlled by scanning a film surface with the part having a sharp tip.

19. (Previously Presented) A method as set forth in claim ~~2~~1, wherein the structure of the film is controlled by scanning a film surface with the part having a sharp tip, and

wherein the structure of the film is controlled by controlling (i) a crystalline structure of crystals constituting the film, (ii) an orientation direction of crystals constituting the film, (iii) an orientation direction of molecules in the crystals, or (iv) any combination of (i) through (iii).

20. (Previously Presented) A method as set forth in claim 2, wherein the structure of the film is controlled by scanning a film surface with the part having a sharp tip, and

wherein the structure of the film is controlled by controlling
(i) a crystalline structure of crystals constituting the film, (ii) an orientation direction of crystals constituting the film, (iii) an orientation direction of molecules in the crystals, or (iv) any combination of (i) through (iii).

21. (New)A method for manufacturing a multi-layered film, in which a method of claim 1 is carried out on all of or some of the layers of the multi-layered film.

22. (New)A thin film having a structure controlled by a force applied on an entire area or arbitrary region of the film by a part having a sharp tip during or after formation of the film.

23. (New)A thin film as set forth in claim 22, wherein a crystalline structure of crystals constituting the film is controlled.

24. (New)A thin film as set forth in claim 22, wherein an orientation direction of crystals constituting the film is controlled.

25. (New)A thin film as set forth in claim 22, wherein an orientation direction of molecules in crystals is controlled.

26. (New)A thin film as set forth in claim 22, wherein the film includes crystals wherein at least two of a crystalline structure of crystals constituting the film is controlled, an orientation direction of crystals constituting the film is controlled and an orientation direction of molecules in crystals is controlled.

27. (New)A thin film as set forth in claim 22, wherein at least two regions of crystals constituting the film are controlled according to at least one of a crystalline structure of crystals constituting the film is controlled, an orientation direction of crystals constituting the film is controlled and an orientation direction of molecules in crystals is controlled.

28. (New)A thin film as set forth in claim 22, wherein the film is made of an organic polymer material.

29. (New)A thin film as set forth in claim 22, wherein the film is formed on a substrate.

30. (New)A multi-layered film having a structure controlled by a force applied on an entire area or arbitrary region of the film by a part having a sharp tip during or after formation of the film controlled by carrying out the method of claim 1 on all or some of the layers of the multi-layered film.

31. (New)A multi-layered film having a structure controlled by a force applied on an entire area or arbitrary region of the film by a part having a sharp tip during or after formation of the film controlled by carrying out the method of claim 2 on all or some of the layers of the multi-layered film.

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END OF CLAIM LISTING